

REMARKS

The present response amends claims 1, 2, and 21. In addition, claims 15-20 are canceled without prejudice or disclaimer as to the subject matter recited therein. Claims 1-14 and 21-27 remain pending in the captioned case.

Claim Objections

An objection was lodged against claim 2 for an informality. In response thereto, claim 2 has been amended to replace "the" with "an," as suggested by the Examiner. Accordingly, Applicants request removal of this objection.

Section 102 Rejection

Claims 15-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,085,412 to Iwasaki (hereinafter "Iwasaki '412"). In response thereto, claims 15-20 have been canceled rendering objection thereto moot. Accordingly, Applicants request removal of this rejection.

Section 103 Rejection

Claims 1-14 and 21-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over various cited references, which include U.S. Patent No. 6,274,926 to Iwasaki (hereinafter Iwasaki '926), U.S. Publication No. 2003/0071348 to Eguchi et al. (hereinafter "Eguchi"), U.S. Patent No. 6,367,017 to Gray (hereinafter "Gray"), U.S. Patent No. 6,431,456 to Nishizawa et al. (hereinafter "Nishizawa"), and Iwasaki '412. The Office Action also alleges that the Applicant has admitted certain features set forth in the present specification as "admitted prior art" (hereinafter APA). Assuming the Office Action's contention that there is APA, Applicants nonetheless assert that the combination of these cited references with APA does not render obvious pending claims 1-14 and 21-27.

To establish a case of *prima facie* obviousness of a claimed invention, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Second, there must be a reasonable expectation of success. As stated in MPEP 2143.01, the fact that references can be hypothetically

combined or modified is not sufficient to establish a *prima facie* case of obviousness. See *In re Mills*, 916 F.2d. 680 (Fed. Cir. 1990). Finally, the prior art references must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d. 981 (CCPA 1974); MPEP 2143.03, emphasis added. Specifically, "all words in a claim must be considered when judging the patentability of that claim against the prior art." *In re Wilson* 424 F.2d. 1382 (CCPA 1970). Using these standards, Applicants contend that the cited art fails to teach or suggest all features of the currently pending claims, and that the hypothetical combination cannot be properly made for at least the reasons stated herein.

Iwasaki '926 and APA are not properly combinable to teach or suggest a plurality of conductors having a lateral surface that partially extends along a first outer planar surface of a molded resin, or a plurality of conductors that terminate in a single row substantially flush with a second outer planar surface that is perpendicular to the first outer planar surface. While the Office Action alleges obviousness of claims 1-7, 11, 12, and 14 over the combination of Iwasaki '926 and APA, the present independent claim 1 defines a particular configuration for the plurality of conductors that is not suggested in either Iwasaki '926 or APA. Specifically, the claimed plurality of conductors have a lateral surface that partially extends along a first outer planar surface of a molded resin. The molded resin is that which encases an integrated circuit. Specifically, the integrated circuit is coupled to the first end of the plurality of conductors, and each of the plurality of conductors extend partially along a first outer planar surface of the molded resin. The end which opposes the first end is defined as the second end, and the second end of the conductor terminates in a single row flush with a second outer planar surface -- the outer planar surface being that which is made of a molded resin. The second outer planar surface is thereby claimed to be perpendicular to the first outer planar surface.

While Iwasaki '926 illustrates a molded resin 3 that apparently encases an integrated circuit 2, the plurality of conductors 5 purposely do not extend along a first outer surface of the molded resin, nor do conductors 5 have an end which terminates flush with a second outer surface of the molded resin, perpendicular to the first (Iwasaki '926 -- Figs. 3, 5).

Iwasaki '926 makes clear that the side surface of conductors 5 do not extend along outer surface of storage device 1 (Iwasaki '926 -- Figs. 1-2; col. 4, lines 26-46). In fact, Iwasaki '926 specifically requires that conductors 5 be recessed and, by definition, cannot extend along an outer planar surface so they are exposed as in present claim 1 (Iwasaki '926 -- col. 4, lines 59-65). The recessed "female" surfaces 5a in Iwasaki '926, at the distal ends of lead 5b, are formed by mold 6 having a protrusion 6a

that is "mated with a recessed surface 5a of each recessed shaped external connection terminal 5 . . ." (Iwasaki '926 -- col. 4, lines 62-63).

By recessing terminals 5, Iwasaki '926 specifically teaches away from an exposed side surface that extends partially along an outer planar surface of a memory card. The benefit of recessing the terminal 5 in Iwasaki '926 is such that a skilled artisan, upon reading Iwasaki '926, would not be lead to modify Iwasaki '926 in accordance with the present claim 1. Thus, not only does Iwasaki '926 fail to disclose the essential elements of claim 1, but any attempt to modify Iwasaki '926 would destroy its intended purpose. Accordingly, Iwasaki '926 cannot be properly combined with another reference to render present claim 1 obvious. *In re Gordon*, 733 F.2d. 900 (Fed. Cir. 1984); MPEP 2143.

For at least the foregoing reasons, Applicants agree with the statement made on page 4 of the Office Action that "Iwasaki '926 fails to specifically teach that a lateral surface of the plurality of conductors partially extend to the respective second ends that terminate in a single row substantially flush with . . ." However, Applicants argue that not only does Iwasaki '926 fail to specifically teach, but specifically teaches away from the claimed conductor arrangement. Iwasaki '926 in fact mandates that the plurality of conductors 5 not be exposed along a first outer planar surface, and specifically terminate well before reaching a "flush" configuration with the second outer planar surface perpendicular with the first outer surface.

By embedding the terminal ends of conductors 5 in order to accommodate conductive elements 8 which protrude from engaging unit 7, conductors 5 certainly cannot be modified to anything other than their recessed configuration. To do so would prevent conductors 5 from contacting protruding conductive elements 8. For example, if there were some suggestion in Iwasaki '926 (which there is not) to convert conductive ends 5a from a recessed, female configuration to a flush configuration as claimed, then conductive elements 8 could not embed into and be retained within memory card 1 via the slide stop member 7b (Iwasaki '926 -- Figs. 5-6). Any attempts at modifying Iwasaki '926 to that of the present claims would destroy the intended purpose of Iwasaki '926 and, thus, is an impermissible modification. MPEP 2143.01.

While the Office Action apparently concedes the limitations of Iwasaki '926, the Office Action nonetheless alleges that APA can somehow fill the gap. Not only can Iwasaki '926 not be modified as alleged in the Office Action, but APA can also not be modified as suggested. While APA illustrates a

memory card 10 having edge connectors 12 insertable into a receptor 22, memory card 10 is specifically described and confined to a "card." As known to those skilled in the art, a card is a printed circuit card having trace conductors 32 and multiple integrated circuits 30 placed on the card and connected to edge connectors 12 (Specification -- pg. 3, lines 8-22). However, as known to a skilled artisan and specifically described in the present specification, card 12 in no way implies a molded resin and, specifically, a first outer planar surface of the molded resin accommodating a lateral surface of a plurality of conductors. Specifically, edge connectors 12 of APA are configured along a printed circuit card. Known to all manufacturers of printed circuit cards, who understand the difference between a printed circuit card and an integrated circuit, a printed circuit card outer surface is not molded resin and, certainly, not molded resin used in an injection molding process, for example, to encase an integrated circuit.

The Office Action is apparently attempting to disregard the present specification and its teaching that a memory card is altogether different from a molded, conventional package, integrated circuit (Specification -- pg. 5, lines 15-27). Although APA specifically teaches why a non-molded memory card is altogether different from and less desirable than the presently claimed molded memory card, the Office Action nonetheless chooses to disregard each and every teaching-away statement set forth in the Background of the present specification, and alleged by the Office Action to be APA. Applicants believe the Office Action has impermissibly combined references without any rationale contained in any such reference or from any known knowledge in the art. Accordingly, Applicants believe that the Office Action has failed to establish a *prima facie* case of obviousness. *Ex parte Levengood*, 20 USPQ 2d 1300 (Bd. Pat. App. & Inter. 1993) (An Examiner must rely upon logic and sound scientific reasoning contained in the references themselves or through affidavit or otherwise; obviousness cannot be established by combining references "without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done.") See also *In re Linter*, 458 F. 2d 1013 (CCPA 1972); *In re Dillon*, 919 F. 2d 688 (Fed. Cir. 1990).

The Office Action also alleges, in addition to claims 1-7, 11, 12, and 14 being obvious, claims 21-23, 26, and 27 are also obvious in light of Iwasaki '926 and Iwasaki '412. Applicants respectfully disagree for reasons set forth below.

Iwasaki '926 and '412 are not properly combinable to teach or suggest the steps of (1) coupling an integrated circuit to at least one of a plurality of conductors, all of which extend substantially parallel to each other and in a single direction laterally from the integrated circuit...

and (2) securing the plurality of conductors between a pair of mold housings. Present independent claim 21, from which claims 22-23, 26, and 27 depend, specifically recites a method of forming a memory module by coupling an integrated circuit to at least one of a plurality of conductors. All (each and every one of) the plurality of conductors extends substantially parallel to each other and in a single direction laterally from the integrated circuit. The plurality of conductors, all of which extend parallel to each other and in a single direction, are secured between a pair of mold housings in order for resin to be inserted between the mold housings to encapsulate the integrated circuit into the form factor of a memory module.

As required under MPEP 2141.03, to establish a *prima facie* case of obviousness, the prior art references (when combined) must teach or suggest all the claim limitations. Neither Iwasaki '926 nor '412 teach or describe, when hypothetically combined as suggested in the Office Action, a plurality of conductors extending parallel to each other and in a single direction, whereby those conductors are then secured between a pair of mold housings in order to inject mold between the mold housings, and around the conductors and integrated circuit as set forth in independent claim 21 and claims dependent therefrom.

Iwasaki '926 specifically discloses conductors 5 extending in two directions opposite one another (Iwasaki '926 -- Fig. 2). When the mold housing elements 6a-6d are brought to bear against conductor 5, the mold housings 6 of Iwasaki '926 secure against conductors that extend parallel to each other in two directions, not a single direction as claimed. In addition to the deficiencies of Iwasaki '926, Iwasaki '412 also describes conductors 122 of metal frame 12 extending in two directions opposite one another (Iwasaki '412 -- Figs. 6-8, 9, 11-14). Nowhere in either reference is there any suggestion that all of the conductors shown and described therein can extend substantially parallel to each other and in a single direction. Moreover, there is no suggestion that the single-directed conductors can be secured between a pair of mold housings. Even if a subsequent Office Action alleges a combination of APA with Iwasaki '926 and '412, APA does not suggest that a plurality of single-directed conductors can be secured between a pair of mold housings in order to fill the void or gap left by Iwasaki '926 and '412.

For at least the foregoing reasons, Applicants assert that independent claims 1 and 21, as well as claims dependent therefrom, are patentably distinct over the cited art. Therefore, Applicants respectfully request removal of this rejection.

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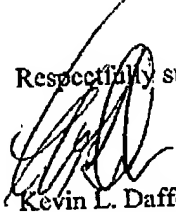
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CONCLUSION

The present amendment and response is believed to be a complete response to all issues raised in the Office Action mailed March 29, 2004. In view of the remarks traversing the rejections, Applicants assert that pending claims 1-14 and 21-27 are in condition for allowance. If the Examiner has any questions, comments or suggestions, the undersigned attorney earnestly requests a telephone conference.

No fees are required for filing this amendment; however, the Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Conley Rose, P.C. Deposit Account No. 03-2769/5732-00100.

Respectfully submitted,


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